

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1.-26. (canceled).

27. (currently amended): A method for diagnosing a bipolar disorder in a human patient, comprising:

- (a) obtaining a ~~patient~~ ratio of
 - (i) the mean membrane potential of ~~fresh~~ cells of ~~the~~ a test human patient incubated *in vitro* in the presence of a compound that alters Na^+K^+ ATPase activity, but in the absence of K^+ , to
 - (ii) the mean membrane potential of ~~fresh~~ cells of the test human patient incubated *in vitro* in the absence of the compound that alters Na^+K^+ ATPase activity, but in the presence of K^+ ; and

one or both of the following steps (b) and (c):

- (b) comparing the ~~patient~~ ratio obtained in (a) to a control ratio, wherein the control ratio is the ratio of
 - (iii) the mean membrane potential of corresponding ~~fresh~~ control cells of one or more ~~people~~ humans known to not have said bipolar disorder incubated *in vitro* in the presence of a compound that alters Na^+K^+ ATPase activity, but in the absence of K^+ , to

- (iv) the mean membrane potential of corresponding ~~fresh~~ control cells of one or more ~~people~~ humans known to not have said bipolar disorder incubated *in vitro* in the absence of the compound that alters Na^+K^+ ATPase activity, but in the presence of K^+ ,

wherein ~~awhen~~ significantly lower patient ~~the ratio obtained in (a) is~~
significantly lower than compared to the control ratio obtained in (b), said
~~indicates that the test human patient is diagnosed as having~~ has said bipolar disorder;

(c) comparing the ~~patient~~ ratio obtained in (a) to a bipolar control ratio, wherein the bipolar control ratio is the ratio of

- (v) the mean membrane potential of corresponding ~~fresh~~ bipolar control cells of one or more ~~people~~ humans known to have said bipolar disorder incubated *in vitro* in the presence of a compound that alters Na^+K^+ ATPase activity, but in the absence of K^+ , to

- (vi) the mean membrane potential of corresponding ~~fresh~~ bipolar control cells of one or more ~~people~~ humans known to have said bipolar disorder incubated *in vitro* in the absence of the compound that alters Na^+K^+ ATPase activity, but in the presence of K^+ ,

wherein ~~when the lack of a significant difference between the patient~~ ratio
obtained in (a) is not significantly different than compared to the bipolar
control ratio obtained in (c), said ~~indicates that the test human patient is~~

diagnosed as having~~has said~~ bipolar disorder,~~wherein said patient is a~~
~~human~~;

~~wherein the cells incubated *in vitro* in the presence of the compound that alters Na^+K^+ ATPase activity are incubated *in vitro* in the absence of K^+ , and wherein the cells incubated *in vitro* in the absence of the compound that alters Na^+K^+ ATPase activity are incubated *in vitro* in the presence of K^+~~

wherein each mean membrane potential is determined by incubating the cells *in vitro* in buffer comprising a potential-sensitive dye, resuspending the cells in potential-sensitive dye free-buffer, and measuring cell fluorescence.

28.-30. (canceled).

31. (currently amended): The method according to claim 27, wherein the compound that alters Na^+K^+ ATPase activity is selected from the group consisting of: valinomycin, monensin, monensin decyl ester, ~~gramicidin~~, *p*-chloromercuribenzenesulfonate (PCMBs), veratridine, ethacrynate, dopamine, a catecholamine, a phorbol ester, ouabain, lithium, valproate, lamotrigine, cocaine, nicotine, R0-31-8220, oxymetazoline, calcineurin, topiramate, a peptide hormone, sorbitol, and a diuretic.

32. (original) The method according to claim 31, wherein the compound that alters Na^+K^+ ATPase activity is ethacrynate.

33.-44. (canceled).

45. (previously presented) The method of claim 27, wherein said bipolar disorder is bipolar I disorder.

46.-51. (canceled).